

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the matter of

Field Repair Requirements)	
for Commercially-Built)	
Transmitter and Transceiver)	RM-10412
Equipment for the Amateur)	
Radio Service)	

To the Commission

Clarifications and Replies to Nickolaus Leggett's Reply Comments
from Christopher J. Cieslak, KC9L

INTRODUCTION

These comments are submitted by Christopher J. Cieslak, an amateur radio operator since 1992. He is also an avid electronics enthusiast. He is currently an Internet backend systems programmer and interface designer.

A CLARIFICATION

In Mr Leggett's reply comments of 22 April 2002, he submits that "some operators have stated on the record that amateur operators do not need electronics knowledge. For example, Mr. Christopher J. Cieslak states: 'As for the advancement of the radio art, this proposal is completely without merit. A computer owner does not have to know how a hard drive works to plug one into his PC, and an amateur radio operator would not need to know the nuances of a direct digital synthesis VFO in order to plug such a module in his radio.'"

In stating that I have "stated on the record that amateur operators do not need electronics knowledge", Mr. Leggett is either willfully or accidentally taking the above quote out of context.

Modular construction does not automatically translate into understanding of the modules being replaced. I submit that an amateur radio operator would gain as much understanding from shipping his radio out for repair as from swapping a board.

As for the field repairability aspect of such construction, many commenters have shown why such style of construction often results in less reliable, rather than more reliable equipment. And while Mr Leggett decries the use of backup systems as an appropriate remedy to ensuring emergency communication reliability, his reasoning is flawed. Backup modules and backup radios kept in storage until needed would have the same advantages and disadvantages, save one: a backup radio could be immediately placed in service, whereas a non-working radio would have to be diagnosed and then fixed via the use of backup modules.

A more careful reading of my Comment would reveal that I fully support the advancement of electronics knowledge as outlined in Part 97.1. Paragraph 12 of my comments outlines how amateurs can improve their skills and abilities:

"For amateurs interested in building and testing their own equipment, there are many manufacturers who sell kits that in many cases rival commercial gear, if not in size and features, then in radio performance. No 'consumer radio service' (as Mr. Leggett calls the modern-day amateur radio service) supports such a market, nor should it. Furthermore, these kits give the operator the 'hands-on experience' Mr. Leggett desires, making his petition superfluous in that regard."

I still stand by this assertion- that the market provides simpler radios using older construction techniques for amateurs that require them.

DIGITAL SYSTEMS TROUBLESHOOTING

As for Mr Leggett's replies to Mr Stevenson, they are even more "absurd" (as Stevenson stated) as his original statements were.

Here is a practical example of the effects of the remedies Mr Leggett requests regarding digital troubleshooting. I currently am designing a microprocessor-based control system for my own Amateur Television operations. In order to be able to step through the microprocessor's code in the field (that is, without using an in-circuit emulator that would more than likely be unavailable in an emergency situation) I would have to use a more powerful and more expensive processor, as I have used up almost all available code space in the chip I am currently using. In order to implement his visual indicators of digital bus status, the LEDs and driver transistors needed to support them would double the parts count of the project! Furthermore, the visual indicators would add nothing to the troubleshooting that I could not already get with a multimeter- which I already carry in my toolkit.

If these requirements would more than double the cost of my small single-board project, I would not even begin to wonder what it would do to a larger commercial system with over 3 times the amount of input-output lines and a much higher clock frequency.

CARS AND RADIOS

While Mr Leggett's response to Mr Swanson's automotive analogy (that is, presenting the Right to Repair Act of 2001) is cute, it has very little bearing on this petition. The Right to Repair Act does not mandate available space under a hood, nor does it specify "field-removable" modules, nor does it require "access doors" to any part of the vehicle. In fact, the only parts of the Act and this petition which are similar are:

1. The right to access diagnostic information.
2. The right to purchase factory or aftermarket replacement parts.

However, the Act states:

DETERMINATION BY FEDERAL TRADE COMMISSION.—The Federal Trade Commission may not require a manufacturer to publicly disclose information that, if made public, would divulge methods or processes entitled to protection as trade secrets of that manufacturer, but may require disclosure of such information to the Commission for the purpose of determining whether such information is entitled to such protection. Such determination shall be made on the record after an opportunity for an agency hearing.

It is my belief that much of the intellectual property contained in these application-specific devices that Mr Leggett requests be available would NOT be covered by the Act due to their proprietary nature (i.e. DSP algorithms, copyrighted firmware).

As for diagnostic information, most companies already provide this. Service manuals and spare parts and modules are easily available from many radio manufacturers, most notable being Motorola (as another commenter as stated). I myself have used service manuals from Icom, Kenwood, and Motorola to repair modern radios.

RESTRAINT OF TRADE

I do not believe that the manufacturers are restraining trade in radio components and repair. Eham.net, a popular amateur radio community site, lists 13 different non-factory repair services in their Reviews section. Components are available from many companies, including Newark, Digikey, Mouser, RF Parts, and numerous surplus suppliers. Most parts not available from these companies would most likely fall under trade secret laws (as shown in the Right to Repair act above) due to the intellectual property contained within.

CONCLUSION

While I appreciate Mr Leggett's concern for the future well-being of the Amateur Radio Service, as well as his concern for our national security in times of crisis, I believe that this proposal is misguided and would not serve its intended purposes. Therefore I ask again that the Commission dismiss this petition.